[c2]

[c3]



[c1] We claim as our invention the following:

A golf ball having reduced susceptibility of cracking of a cover, the golf ball produced in accordance with the method comprising: forming a golf ball precursor product having a first volume; heating the golf ball precursor product at a predetermined temperature and for a predetermined time period to achieve a predetermined volumetric thermal expansion of the golf ball precursor product, the golf ball precursor product increasing from the first volume to a heated volume; and

applying a cover over the golf ball precursor product with the heated volume, the

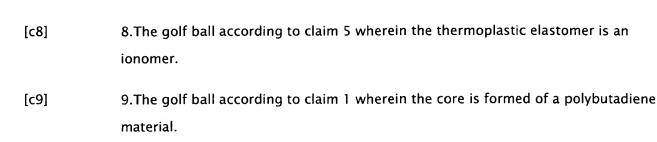
2.The golf ball according to claim 1 wherein the cover is composed of a thermosetting polyurethane material.

cover applied through an exothermic reaction.

- 3.The golf ball according to claim 1 wherein heating the golf ball precursor product to a predetermined temperature comprises convection heating the golf ball precursor product to a temperature within the range of about 120 °F to about 180 °F.
- [c4] 4.The golf ball according to claim 1 wherein heating the golf ball precursor product to a predetermined temperature comprises convection heating the golf ball precursor product to a temperature within the range of about 140 °F to about 160 °F.
- [c5] 5.The golf ball according to claim 1 wherein forming a golf ball precursor product comprises forming a core and applying at least one boundary layer over the core.
- [c6] 6.The golf ball according to claim 1 wherein heating the golf ball precursor product to a predetermined temperature comprises microwave heating the golf ball precursor product.
- [c7] 7.The golf ball according to claim 5 wherein the at least one boundary is a thermoplastic elastomer.

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[c11]



[c10] No.A golf ball having reduced susceptibility of cracking of a cover, the golf ball produced in accordance with the method comprising:

forming a core comprised of a polybutadiene material;

forming a boundary layer over the core, the boundary layer composed of a blend of ionomer materials, the boundary layer and core having a first volume;

heating the boundary layer and core at a predetermined temperature and for a predetermined time period to achieve a predetermined volumetric thermal expansion of the boundary layer and core to a heated volume; and casting a polyurethane cover over the golf ball precursor product with the heated volume, the polyurethane cover applied through an exothermic reaction.

A golf ball having reduced susceptibility of cracking of a cover, the golf ball produced in accordance with the method comprising: compression molding a core composed of a polybutadiene material; injection molding a boundary layer composed of an ionomer blend material around the core to form a golf ball precursor product, the golf ball precursor product having a diameter ranging from 1.630 inch to 1.644 inch; heating the golf ball precursor product to cause volumetric thermal expansion of the golf ball precursor product to create a thermally expanded golf ball precursor product having at least a 1.29% volume increase of the golf ball precursor product; and applying a thermosetting polyurethane cover to the thermally expanded golf ball precursor product through an exothermic reaction involving a polyurethane prepolymer and a curing agent.

12. The golf ball according to claim 11 wherein the volume increase of the golf ball precursor product is between 1.3% and 2.41%.

[c12]

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